the two indexes, yielding a revised index;

computer-readable program code means for serializing information on how the first update affected the second index;

computer-readable program code means for switching the first index and the revised index, responsive to operation of the computer-readable program code means for performing the first update, such that the first index becomes the second index and the revised index becomes the first index;

computer-readable program code means for applying, after operation of the computer-readable program code means for switching, the serialized information to the second index, yielding a second index that is synchronized with, and structurally identical to, the first index; and

computer-readable program code means for performing subsequent searches against the first index.

Please replace Claim 2 with the following amended claim:

2. The computer program product according to Claim 1, further comprising:

computer-readable program code means for obtaining an exclusive lock on the second index prior to operation of the computer-readable program code means for performing the first update; and

computer-readable program code means for releasing the exclusive lock after operation of the computer-readable program code means for applying the serialized information.

Please replace Claim 3 with the following amended claim:

3. The computer program product according to Claim 1, wherein atomic instructions are used to maintain proper synchronization between the first index and the second index.

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Please replace Claim 4 with the following amended claim:

4. The computer program product according to Claim 1, wherein the computer-readable program code means for serializing information further comprises computer-readable program code means for queuing a transaction, and wherein the computer-readable program code means for applying the serialized information further comprises computer-readable program code means for applying the queued transaction to the second index.

Please replace Claim 5 with the following amended claim:

5. The computer program product according to Claim 1, further comprising computer-readable program code means for performing a subsequent update against the second index that results from operation of the computer-readable program code means for applying the serialized information; and wherein operation of the computer-readable program code means for performing the subsequent update causes another operation of the computer-readable program code means for serializing, the computer-readable program code means for switching, and the computer-readable program code means for applying.

Please replace Claim 6 with the following amended claim:

6. A system for serializing data retrievals and updates in a computing environment,

comprising:

means for creating two identical indexes, each representing an initial state for accessing stored data;

means for performing searches against a first of the two indexes;

means for performing a first update against a second of the two indexes, yielding a revised index;

means for serializing information on how the first update affected the second index;

means for switching the first index and the revised index, responsive to operation of the means for performing the first update, such that the first index becomes the second index and the revised index becomes the first index;

means for applying, after operation of the means for switching, the serialized information to the second index, yielding a second index that is synchronized with, and structurally identical to, the first index; and

means for performing subsequent searches against the first index.

Please replace Claim 7 with the following amended claim:

7. The system according to Claim 6, further comprising:

means for obtaining an exclusive lock on the second index prior to operation of the means for performing the first update; and

means for releasing the exclusive lock after operation of the means for applying the serialized information.

Please replace Claim 8 with the following amended claim:

8. The system according to Claim 6, wherein atomic instructions are used to maintain proper synchronization between the first index and the second index.

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Please replace Claim 9 with the following amended claim:

9. The system according to Claim 6, wherein the means for serializing information further comprises means for queuing a transaction, and wherein the means for applying the serialized information further comprises means for applying the queued transaction to the second index.

Please replace Claim 10 with the following amended claim:

10. The system according to Claim 6, further comprising means for performing a subsequent update against the second index that results from operation of the means for applying the serialized information; and wherein operation of the means for performing the subsequent update causes another operation of the means for serializing, the means for switching, and the means for applying.

Please replace Claim 11 with the following amended claim:

11. A method for serializing data retrievals and updates in a computing environment, comprising steps of:

creating two identical indexes, each representing an initial state for accessing stored data;

performing searches against a first of the two indexes;

performing a first update against a second of the two indexes, yielding a revised index;

serializing information on how the first update affected the second index;

switching the first index and the revised index, responsive to performing the first update, such that the first index becomes the second index and the revised index becomes the first index;

applying, after the switching step, the serialized information to the second index, yielding a second index that is synchronized with, and structurally identical to, the first index; and

performing subsequent searches against the first index.

A2

Please replace Claim 12 with the following amended claim:

12. The method according to Claim 11, further comprising steps of:

obtaining an exclusive lock on the second index prior to performing the first update; and

releasing the exclusive lock after applying the serialized information.

Please replace Claim 13 with the following amended claim:

13. The method according to Claim 11, wherein atomic instructions are used to maintain proper synchronization between the first index and the second index.

Please replace Claim 14 with the following amended claim:

14. The method according to Claim 11, wherein the step of serializing information further comprises the step of queuing a transaction, and wherein the step of applying the serialized information further comprises the step of applying the queued transaction to the second index.

Please replace Claim 15 with the following amended claim:

15. The method according to Claim 11, further comprising the step of performing a subsequent update against the second index that results from applying the serialized information; and wherein the step of performing the subsequent update causes repeating the serializing, switching, and applying steps.

A2

Please replace Claim 16 with the following amended claim:

16. A method of serializing access to data in a computing system, comprising steps of:

maintaining two trees as indexes to the data, a first of which is used for searches and a second of which is used for update operations;

serializing, for each update operation, a record of how the update operation affected the second tree;

switching the two trees, responsive to performing each update operation; and

applying the serialized record to the newly-switched second tree, such that both the first tree and the second tree reflect the update operation.

Please replace Claim 17 with the following amended claim:

17. A method of serializing access to data in a computing system, comprising steps of:

maintaining two indexes to the data, a first of which is used for searches and a second of which is used for update operations;

serializing, for each update operation, a record of how the update operation affected the second index;

switching the two indexes, responsive to performing each update operation; and

applying the serialized record to the newly-switched second index, such that both the first index and the second index reflect the update operation.

A2

Please replace Claim 18 with the following amended claim:

18. The method according to Claim 17, wherein the two indexes are B-trees.

Please add the following new Claims 19 - 24:

19. The computer program product according to Claim 1, wherein the indexes are implemented as trees.

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20. The computer program product according to Claim 1, wherein the indexes are implemented as hash tables.

21. The system according to Claim 6, wherein the indexes are implemented as trees.

22. The system according to Claim 6, wherein the indexes are implemented as hash tables.

23. The method according to Claim 11, wherein the indexes are implemented as trees.

24. The method according to Claim 11, wherein the indexes are implemented as hash tables.